Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (original) A magnetoresistive sensor comprising:

a stack of magnetoresistive layers including an anti-ferromagnetic layer, a pinned layer, a non-magnetic layer, and a free layer;

an underlayer of said stack of magnetoresistive layers;

a magnetic domain control film; and

a pair of electrode films for supplying current to said stack of magnetoresistive layers;

wherein a center position of an upper surface and a lower surface of said magnetic domain control film is positioned within a range of an upper surface and a lower surface of said free layer; and

further comprising:

an underlayer formed below said magnetic domain control film; and

an amorphous metal film layer formed below said underlayer for controlling crystallization of said underlayer.

2. (original) A magnetoresistive sensor according to claim 1, wherein said stack of magnetoresistive layers comprises said underlayer, said anti-ferromagnetic layer, said pinned layer, said non-magnetic layer, said free layer and a protection layer formed in this order from the lower layer to the upper layer.

3. (original) A magnetoresistive sensor according to claim 1, wherein said stack of magnetoresistive layers comprises said underlayer, said anti-ferromagnetic layer, said pinned layer, said non-magnetic layer, said free layer, said upper non-magnetic layer, said upper pinned layer, said upper anti-ferromagnetic layer and a protection layer formed in this order from the lower layer to the upper layer.

4. (original) A magnetoresistive sensor according to claim 1, wherein said stack of magnetoresistive layers comprises said underlayer, said free layer, said upper non-magnetic layer, said upper pinned layer, said upper anti-ferromagnetic layer and a protection layer formed in this order from the lower layer to the upper layer.

5. (original) A magnetoresistive sensor according to claim 1, wherein said amorphous metal film layer is formed on any one of surfaces within a range from a lower surface of said underlayer to an upper surface of said non-magnetic layer of said stack of magnetoresistive layers.

6. (original) A magnetoresistive sensor according to claim 1, wherein said magnetoresistive sensor has a structure in which a lower surface of said free layer is flush with a lower surface of said magnetic domain control film, and a bias magnetic field of said magnetic domain control film is mainly applied to said free layer.

7. (original) A magnetoresistive sensor according to claim 6, wherein said underlayer is formed of Cr or Cr alloy and comprise a body-centered cubic lattice (BCC) polycrystal thin film, and polycrystal orientation to formed plane is isometric random crystal orientation having no particular crystal orientation.

8. (original) A magnetoresistive sensor according to claim 1, wherein said magnetic domain control film is formed of a Co alloy film, said underlayer disposed below said magnetic control film controls a crystallization state of said magnetic domain control film, and said amorphous metal film layer controls a crystallization state of said underlayer.

9. (original) A magnetoresistive sensor according to claim 1, wherein said magnetic domain control film is formed of a Co alloy film, said underlayer is formed of a Cr or Cr alloy film, and said amorphous metal film layer is formed of an Ni series alloy or Co series alloy film.

10. (original) A magnetoresistive head constituted by using a magnetoresistive sensor according to claim 1.

11. (original) A magnetoresistive sensor comprising:

a stack of magnetoresistive layers including an anti-ferromagnetic layer, a pinned layer, a non-magnetic layer, and a free layer;

an underlayer of said stack of magnetoresistive layers;

a magnetic domain control film; and

a pair of electrode films for supplying current to said stack of magnetoresistive layers;

wherein a center position of an upper surface and a lower surface of said free layer is positioned within range of an upper surface and a lower surface at a position near an end of said magnetic domain control film; and

further comprising:

an underlayer formed below said magnetic domain control film and

an amorphous metal film layer formed below said underlayer for controlling crystallization state of said underlayer.

12. (original) A magnetoresistive sensor according to claim 11, wherein said stack of magnetoresistive layers comprises said underlayer, said anti-ferromagnetic layer, said pinned layer, said non-magnetic layer, said free layer and a protection layer formed in this order from the lower layer to the upper layer.

13. (original) A magnetoresistive sensor according to claim 11, wherein said stack of magnetoresistive layers comprises said underlayer, said anti-ferromagnetic layer, said pinned layer, said non-magnetic layer, said free layer, said upper non-magnetic layer, said upper pinned layer, said upper anti-ferromagnetic layer and a protection layer formed in this order from the lower layer to the upper layer.

14. (original) A magnetoresistive sensor according to claim 11, wherein

said stack of magnetoresistive layers comprises said underlayer, said free layer, said upper non-magnetic layer, said upper pinned layer, said upper anti-ferromagnetic layer and a protection layer formed in this order from the lower layer to the upper layer.

15. (original) A magnetoresistive sensor according to claim 11, wherein said amorphous metal film layer is formed on any one of surfaces within a range from a lower surface of said underlayer to an upper surface of said non-magnetic layer of said stack of magnetoresistive layers.

16. (original) A magnetoresistive sensor according to claim 11, wherein said magnetoresistive sensor has a structure in which a lower surface of said free layer is flush with a lower surface of said magnetic domain control film, and a bias magnetic field of said magnetic domain control film is mainly applied to said free layer.

17. (original) A magnetoresistive sensor according to claim 16, wherein said underlayer is formed of Cr or Cr alloy and comprise a body-centered cubic lattice (BCC) polycrystal thin film, and polycrystal orientation to formed plane is isometric random crystal orientation having no particular crystal orientation.

18. (original) A magnetoresistive sensor according to claim 11, wherein said magnetic domain control film is formed of a Co alloy film, said underlayer disposed below said magnetic control film controls a crystallization state of said magnetic domain control film, and said amorphous metal film layer controls a crystallization state of said underlayer.

19. (original) A magnetoresistive sensor according to claim 11, wherein said magnetic domain control film is formed of a Co alloy film, said underlayer is formed of a Cr or Cr alloy film, and said amorphous metal film layer is formed of an Ni series alloy or Co series alloy film.

20. (original) A magnetoresistive head constituted by using a magnetoresistive sensor according to claim 11.

21. (canceled)

22. (canceled)